


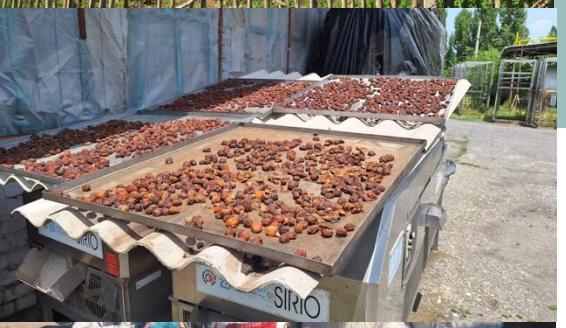

DO SME FOOD PROCESSORS WITH CERTIFICATION PERFORM BETTER ENVIRONMENTALLY, SOCIALLY AND ECONOMICALLY? A CASE STUDY FROM KYRGYZSTAN'S DRIED FRUITS AND NUTS INDUSTRY

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AGENDA

Introduction

Problem statement

Environmental and social standards (ESS)

Research framework

Methodology

Characteristics of food processing SMEs

Performance of SMEs across economic, environmental and social dimensions

Causal mechanisms of certification effects on SME performance

Conclusion

INTRODUCTION

Dried fruits and nuts are vital for nutrition and incomes in rural **Central Asia (CA):**

- Mainly collected in **wild forests** and cultivated in intensive **orchards**
- Rarely in sustainable **Agroforestry Systems (AFS)**

The expansion of AFS is slow and hindered due to:

- Lack of knowledge,
- Poor processing,
- Absence of **Environmental and Social Standards (ESS)**

PROBLEM STATEMENT

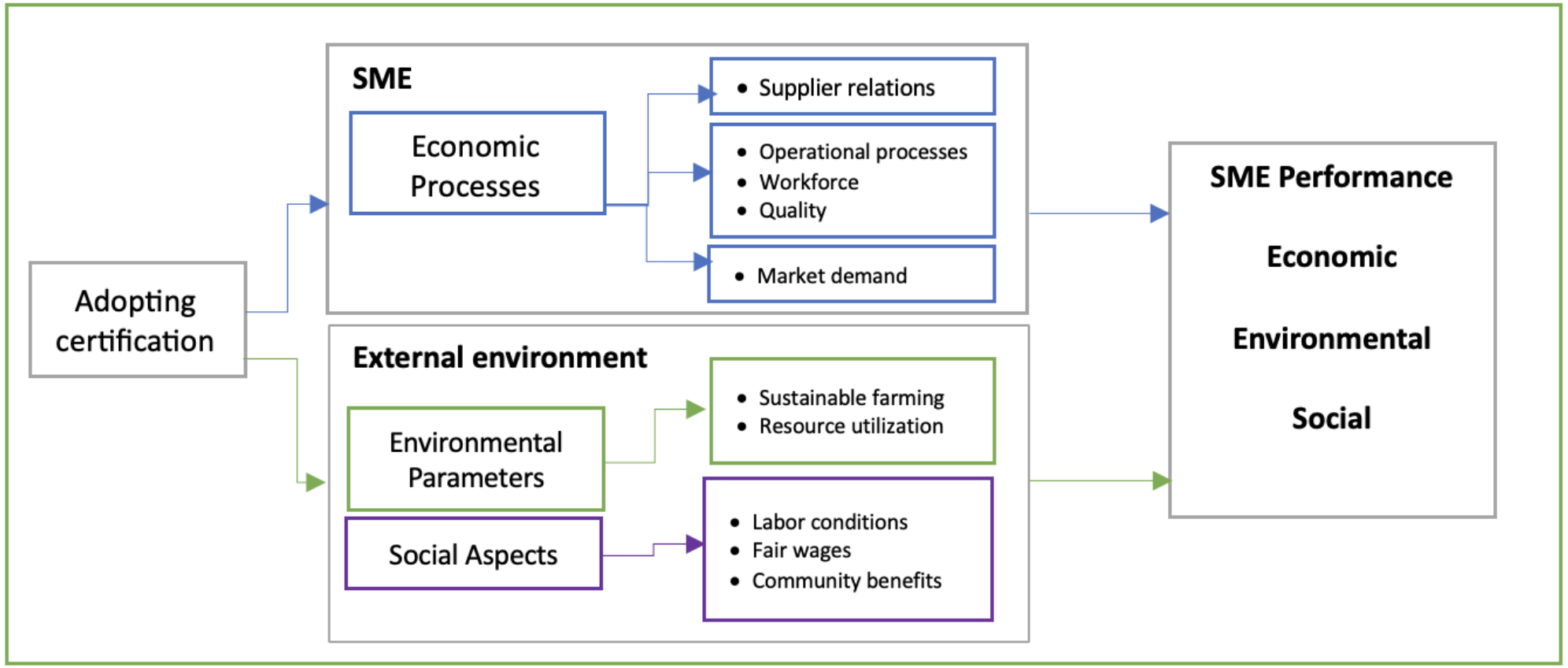
- Global **demand for certified** sustainable and ethical **food is rising**
- **Rising living standards** of populations within Central Asia
- **Institutional market transformations** in Central Asian food markets
- **Food processing SMEs** in CA often **do not fully exploit** and **benefit from ESS**
  - **High costs** of adopting ESS create uncertainties among food processing SMEs.
  - **Limited** technical and managerial **capacity**
  - **Uncertainty over** whether certification leads to higher **returns**

ENVIRONMENTAL AND SOCIAL STANDARDS (ESS)

ESS are guidelines for sustainable and ethical food production and processing practices

Environmental sustainability and resource efficiency	Equitable societies and respect for human rights	Accountable and transparent operations
Sustainable harvesting/collection	Safe and fair working conditions	Traceability
Soil and water conservation	Employee benefits	Quality control systems
Forest, eco-system management	Uphold social responsibility throughout the food supply chain	Inspections
Examples		
Organic, FSC, Fairwild	FSC, Fairtrade, Fairwild	Organic, HACCP, ISO 22000, FSSC 22000

RESEARCH FRAMEWORK



METHODOLOGY

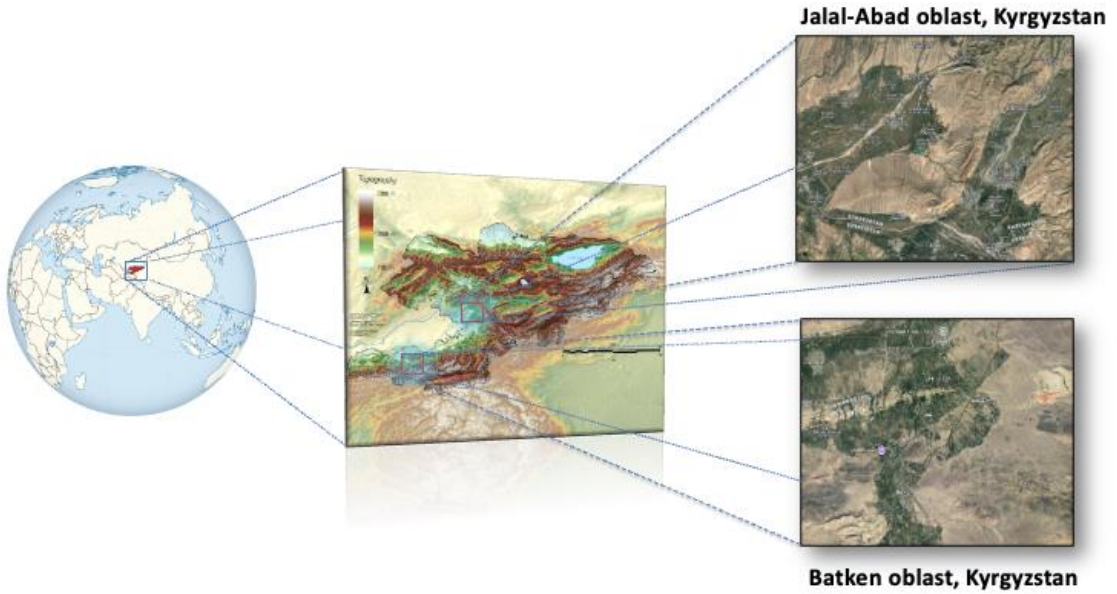
Method:
- Multiple-case study design

Study area:
- Kyrgyzstan: Jalal-Abad & Batken

Case selection:
- In consultation with local communities, development stakeholders, and industry representatives

Data collection:
- Semi-structured interviews (managers, workers, farmers, collectors)
- Facility and field observations
- Internal documents (protocols, financials, reports)

Theoretical foundation:
- Resource-Based View



CHARACTERISTICS OF FOOD PROCESSING SMES

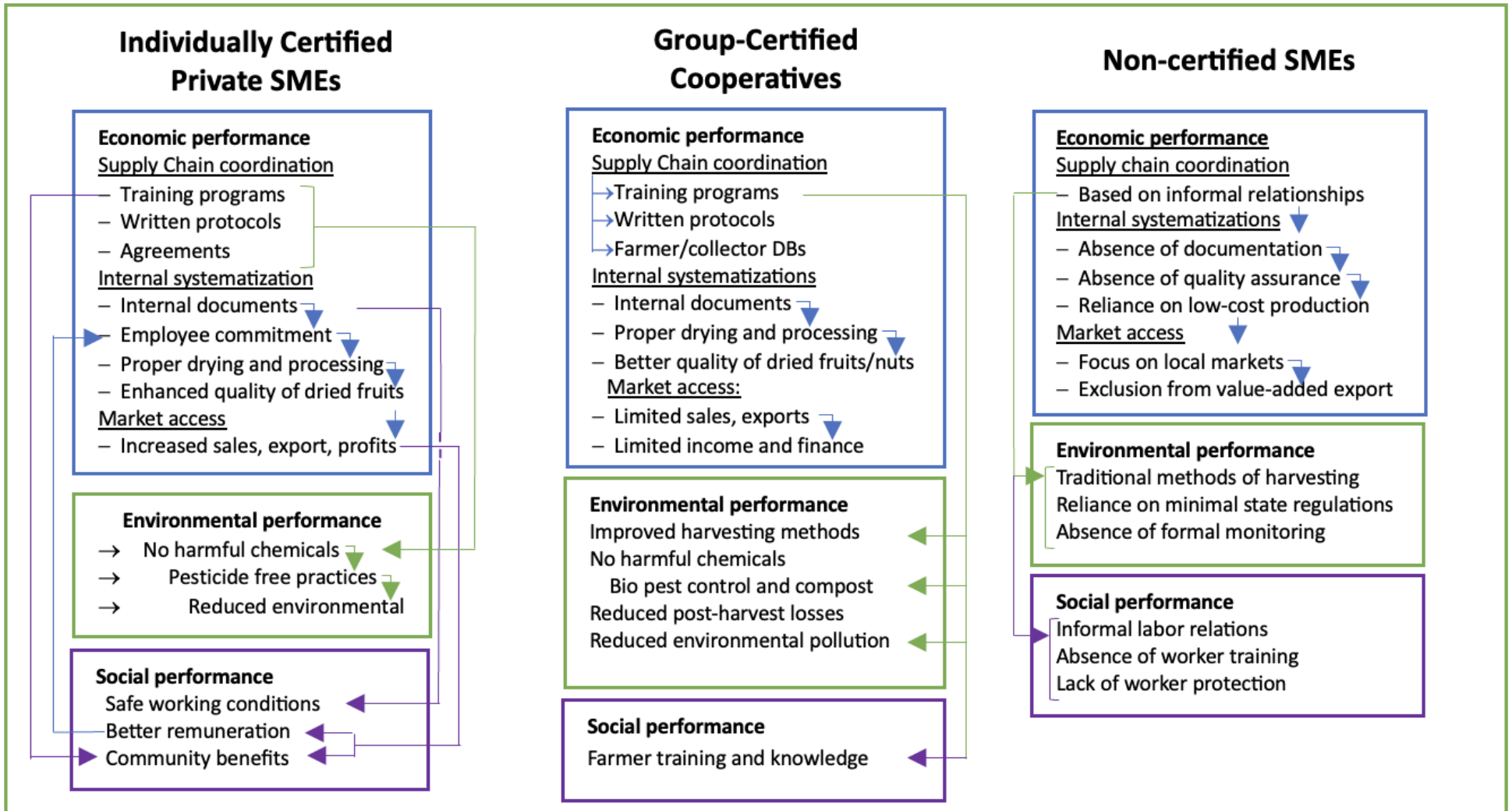
SME	Region	Type	Product	Export markets	Certificate	Funding
A	Jalal-Abad	Privately Certified SMEs	Wild walnuts Capers, Almonds, Pistachios	Turkey, Uzbekistan, EU	Organic	Own
B	Jalal-Abad					
C	Jalal-Abad	Group-Certified Cooperatives	Wild walnuts Almonds Pistachios	Kyrgyzstan, Uzbekistan, US	Organic, Fairtrade	Grant
D	Batken					
E	Jalal-Abad	Non-certified SMEs	Wild walnuts, dried apricots, dried prunes	Kyrgyzstan, Uzbekistan	No certification	No
F	Batken					

PERFORMANCE OF SMES ACROSS ECONOMIC, ENVIRONMENTAL, AND SOCIAL DIMENSIONS

	Economic Performance	Environmental Performance	Social Performance
Privately Certified SMEs	🟢 **Strong** ✓ traceable sourcing ✓ protocols; ✓ trust of buyers; ✓ price premiums	🟡 **Moderate** ○ Focused on compliance rather than on environmental concerns to meet certification	🟢 **Strong** ✓ Improved hygiene, ✓ Structured labor practices ✓ Infrastructure investments ✓ Performance focused
Group-Certified Cooperatives	🟡 **Moderate** ✓ Improved coordination with farmers through training and documentation ○ Limited export due to lack of managerial capacity and short-term donor support	🟢 **Strong** ✓ Promoted composting, organic inputs, and sustainable harvesting ✓ Internal monitoring enabled collective ecological practices	🟡 **Moderate** ✓ Knowledge-sharing among producers ○ Informal labor practices ○ Gender imbalances
Non-Certified SMEs	🔴 **Weak** ○ Informal sourcing and low-cost production ○ No formal buyer relationships or export capacity	🔴 **Weak** ○ Depended on minimal compliance ○ Lack of internal initiatives / monitoring of practices	🔴 **Weak** ○ No formal labour contracts ○ Minimal attention to workforce well-being or community engagement

🟢 Strong effect / 🟡 Moderate effect / 🔴 Weak effect

CAUSAL MECHANISMS OF CERTIFICATION EFFECTS ON SME PERFORMANCE



CONCLUSION

- Certification improves SME's economic, environmental, and social performance of SMEs.
- Privately certified SMEs achieved the highest value through export contracts and premiums.
- Cooperatives demonstrated significant environmental benefits but struggled to capture economic and social benefits fully.
- Non-certified SMEs remained confined to low-value domestic markets with minimal sustainability practices.
- The effectiveness of certification depends on internal capacities, managerial skills, and long-term support.
- Policy should prioritize capacity-building, labor formalization, and sustained support to foster inclusive and sustainable agri-food value chains.

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